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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.				
10/566,303	01/27/2006	David H. Tracy	BCR-012.1P US	1905				
7590 Leon R Yankwich Yankwich & Associates 201 Broadway Cambridge, MA 02139	01/10/2008		<table border="1"><tr><td colspan="2">EXAMINER</td></tr><tr><td colspan="2">NGUYEN, TU T</td></tr></table>		EXAMINER		NGUYEN, TU T	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/566,303	Applicant(s) TRACY ET AL.	
	Examiner Tu T. Nguyen	Art Unit 2886	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/09/2006</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,3-10,13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen (WO 01/69209).

With respect to claim 1, Johansen discloses an optical analysis instrument comprising: a flow cell 280 (fig 1b) comprising a reflective sensor 200 (fig 1a) in a substantially stationary position; a light source assembly 100 (fig 1a) comprising a light source 120 (fig 1a) and source optics 130 (fig 1a) for focusing light emitted from said light source, which light source assembly is oriented to project a beam of light 110 (fig 1a) onto said reflective sensor 200 (fig 1a), and which light source assembly is rotatably (see fig 7) attached to said support frame so as to permit alteration of the orientation of said light source with respect to the position of said sensor (see fig 7); means for altering the orientation of said light source assembly (fig 7); a detector assembly 500 (fig 1a).

Johansen does not explicitly disclose a support frame. However, the claimed support would have been inherent because there must be some sort of "support frame" holding the system together. Further, the claimed support frame would have been

known. It would have been obvious to modify Johansen with a support frame to facilitate the measuring.

Johansen does not explicitly disclose means for recording the angular change in the orientation of said light source assembly. However, it would have been well known in the art that the surface Plasmon effect being used is sensitive to angle (see figure 11 and page 9, lines 22-28 of the reference); this at least clearly suggests that the angle of incidence be determined; note that to make graphs as in figure 11 of the reference the angle needs to be determined.

With respect to claims 3-6, Johansen does not explicitly disclose using a motor or manual adjusting means for altering the orientation of the light source. However, the claimed adjusting means would have been known. It would have been obvious To modify Johansen with the known adjusting means as claimed for different intended uses.

With respect to claim 7, Johansen does not disclose providing a reference point at the start of each optical analysis. However, it would have been obvious to modify Johansen by providing a reference point at the start of each optical analysis to make the measurement more accurate.

With respect to claims 8-10, Johansen discloses using an LED as the light source (page 8, lines 8-9). However, Johansen does not disclose the claimed LEDs. It

would have been obvious to modify Johansen with different types of LEDs for measuring different types of samples.

With respect to claim 13, Johansen discloses altering the detector 500 (fig 7) relative to the reflective sensor. Johansen does not disclose using a plurality of gimbals for altering the detector. It would have been obvious a designed choice to modify Johansen with different means for altering the detector for using the system in different environments.

With respect to claim 14, Johansen discloses a detector assembly 500 (fig 1a) having a detector sensing element 510 (fig 1a) and a lens 520 (fig 1a).

With respect to claims 15-16, Johansen does not disclose the claimed elements. However, the claimed elements would have been known in the art. It would have been obvious to modify Johansen with the claimed light elements to facilitate the measurement.

With respect to claims 17-19, Johansen does not disclose the claimed limitations. However, it would have been obvious to modify Johansen with the claimed passive cold finger or reflective elements or means for independently adjusting the lens assembly for measuring different characteristics of the sample.

With respect to claim 20, Johansen discloses using a CCD camera (page 11, lines 2 and 16).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen (WO 01/69209) in view of Pedersen et al (2002/0044285).

With respect to claim 2, Johansen does not disclose a grating coupled SPR sensor. Pedersen disclose a grating coupling SPR sensor (see figs 1a-1e or abstract). It would have been obvious to modify Johansen with the grating coupled SPR taught by Pedersen for measuring different types of samples.

Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen (WO 01/69209) in view of Schwerdt et al (3,214,596).

With respect to claims 11-12, Johansen does not disclose a light source beam being offset from the central axis of said optics to provide a lateral beam skew sufficient to eliminate ghost reflections caused by light reflecting from optical surfaces of the instrument. It would have been known in the art to eliminate reflections from optical elements such as lens by having the light path and optical element tilted relative to each other (see the tile to lens 49 in Schwerdt). It would have been obvious to modify Johansen by tilting optical elements in any optical system in which such reflection may be problem to facilitate the measuring.

Claims 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen (WO 01/69209) in view of Elkind et al (6,326,612).

With respect to claim 21, Johansen discloses a flow cell 280 (fig 1b). However, Johansen does not explicitly disclose a flow cell having a reservoir, one or more pumps, waste receptacle as claimed. Elkind discloses the claimed flow cell (fig 5). It would have been obvious to modify Johansen with the flow cell system taught by Elkind to make the system more accurate.

With respect to claim 22, Elkind does not disclose a bubble blast means. However, it would have been obvious a design choice to modify Elkind with the claimed bubble blast means to facilitate the measurement.

With respect to claim 23, Elkind discloses the claimed thermal 164 (fig 5) chamber 152 (fig 5).

With respect to claim 24, Elkind discloses the claimed heat exchanger 172 (fig 5).

With respect to claim 25, Elkind does not disclose segmented passive heat exchanger. However, it would have been obvious to modify Elkind with different types of heat elements for different purposes.

With respect to claim 26, Elkind discloses the claimed active 164 (fig 5) heating.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T. Nguyen whose telephone number is (571) 272-2424. The examiner can normally be reached on T-F 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur Chowdhury can be reached on (571) 272-2800 Ext. 86. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tu T. Nguyen  
Primary Examiner  
Art Unit 2886